May 8, 1995. These allowed applications are incorporated herein by reference.

The assignee Digimarc's other digital watermark-related patent filings include applications 07/923,841, filed July 31, 1992 (now patent 5,721,788); 08/327,426, filed October 21, 1994 (now patent 5,768,426); 08/436,098, filed May 8, 1995 (now patent 5,636,292); 08/436,099, filed May 8, 1995 (now patent 5,710,834); 08/436,134, filed May 8, 1995 (now patent 5,748,763); 08/436,102, filed May 8, 1995 (now patent 5,748,783); 08/598,083, filed July 27, 1995 (now allowed); 08/534,005, filed September 25, 1995 (now allowed); 08/614,521, filed March 15, 1996 (now patent 5,745,604); 08/637,531, filed April 25, 1996 (now allowed); 08/746,613, filed November 12, 1996 (still pending); 08/763,847, filed December 4, 1996 (now allowed); 08/951,858, filed October 16, 1997 (still pending); 08/967,693, filed November 12, 1997 (still pending); 08/969,072, filed November 12, 1997 (allowed); 09/074,034, filed May 6, 1998 (still pending); 09/074,632, filed May 7, 1998; and 09/127,502, filed July 31, 1998 (still pending).

Field of the Invention

The present invention relates to tracking watermarked materials (such as image data - including video and graphics data - and sound files) as they are disseminated on the Internet.

Background and Summary of the Invention

Distribution of imagery (including, e.g., graphics and video) and audio on the Internet is quick and simple. While

advantageous in most respects, this ease of distribution makes it difficult for proprietors of such materials to track the uses to which their audio/imagery/graphics/video are put. It also allows such properties to be copied illicitly, in violation of the proprietors' copyrights.

The present invention seeks to redress these drawbacks by monitoring Internet dissemination of various properties, and reporting the results back to their proprietors. If an unauthorized copy of a work is detected, appropriate steps can be taken to remove the copy, or compensate the proprietor accordingly.

In accordance with one embodiment of the present invention, a monitoring system downloads various image files (including video or graphic files) or audio files over the Internet, and identifies some as having embedded digital watermark data. The system decodes such watermark data and, from the decoded data, determines the proprietor of each file. The proprietors are then alerted to the results of the monitoring operation, sometimes informing them about otherwise unknown distribution of their image/audio properties.

In some embodiments, the proprietorship is determined by reference to a registry database, in which a watermarked identification code is associated with textual information identifying the proprietor of a work.

In some embodiments, various types of screening operations can be applied to the downloaded files to identify those most likely to contain embedded watermark data, so that complete watermark detection operations are performed only on a subset of the downloaded files.